

REMARKS

Claims 1 – 28 were in the application as previously amended. In the Office Action deemed non-final by the Examiner, the specification and the drawings were objected to. The Examiner also had objections to certain of the claims, and rejections to others of the claims under 35 USC §112, second paragraph. In addition, various claims were rejected under 35 USC §102 and/or 35 USC §103 on the basis of one or more of the following patents and articles: European Patent to Daimler Benz 0,822,423; Article by Nelson, et al., identified by No. XP-000957349; and the U.S. Patent to Sekiguchi 7,030,775. The Applicants respectfully traverse the objections and rejections, based on the amendments to the specification and claims, and the following remarks.

The Examiner has objected to the drawings as being informal, and has specifically stated that the boxes in FIGS. 1 – 3 should be labeled. With this Response, the Applicants are submitting two new pages of drawings, and respectfully request that the drawing pages be entered. The drawing pages conformed to the originally filed drawings, but with the boxes in the FIGS. being labeled. The Examiner has also objected to the specification, in view of the absence of the foreign priority data. In this Response, an amendment to the specification has been made, incorporating the foreign priority data within the first page of the specification.

The Examiner has objected to claim 2 – 4, 6 – 9 and 12 under 37 CFR §1.75(c) as being of improper independent form for allegedly failing to further limit the subject matter of a previous claim. Specifically, the Examiner considers the claims to be operational or quasi-method claims, in that they allegedly recite an intended use, without setting forth structure. The Examiner has also rejected claims 2 – 4, 6 – 9, 12, 27 and 28 under §112, second paragraph as

being indefinite. With respect to claims 2 - 4, 6 - 9 and 12, the Examiner again states that it is unclear as to what is being claimed in terms of structure. The Examiner has also stated that claims 3, 4 and 6 should preferably include the phrase "further comprising." With respect to claims 27 and 28, the Examiner considers the claims to be drafted in an inappropriate manner for reciting a limitation directed to a computer program. The Examiner has also questioned the meaning of the term "data carrier."

The Applicants respectfully traverses these objections and rejections under 37 CFR §1.75(c) and 35 USC §112, second paragraph, as applied to the claims as amended.

To overcome the Examiner's objections and rejections, claim 2 has been amended so as to expressly define a signal producer. Claim 3 has been cancelled. The principal subject matter of claim 3 has been incorporated within claim 1 as amended. However, the language originally found in claim 3 which the Applicants believe was being objected to by the Examiner has been amended. Claim 4 has been amended so as to refer to specific structure. Similar amendments have been made to claim 6. In addition, with respect to both claims 4 and 6, the phrase "further comprising" or "further comprises" has been added to the claims, in accordance with the suggestions made by the Examiner in paragraph 11 of the Office Action.

With respect to claim 7, the Applicants are unsure of the Examiner's rejection. Claim 7 defines the optical sensor as having an optical field of regard, and the radar device as having a radar field of regard. The Applicants believe that both of these statements recite limitations appropriate within the claim. However, if the Examiner would be kind enough to further explain the nature of the rejection, the Applicants are completely open to proposing amendment CFR section sections to claim 7. The same exists with respect to claim 8, which appears to recite a limitation as to the viewing directions of the optical sensor and the radar device as being

substantially parallel. Similarly, claim 9 recites the optical sensor and radar device as being arranged in mutual proximity. Still further, claim 12 appears to appropriately recite a limitation as to the time delay present in the signal path between the optical sensor and signal processor, and the signal path between a radar device and the signal processor. The Applicants believe that this language in claim 12 defines specific characteristics of the structural signal paths.

With respect to claims 27 and 28, each of these claims has been substantially amended. With these amendments, the Applicants believe that the claims appropriately recite the use of a computer program to perform the method set forth in claim 14. With respect to the question regarding "data carrier," the Applicants believe that this term is appropriately known for referring to memory devices or the like which would be associated with computers.

In view of the amendments to claims 2 - 4, 6 - 9, 12, 27 and 28, the Applicants believe that these claims are now in conformance with appropriate laws and regulations, specifically with respect to 37 CFR §1.75(c) and 35 USC §112, second paragraph.

The Applicants respectfully traverse the rejection of claims 1 - 9, 11 - 22, 24 and 26 - 28 under §102(b) as being anticipated by the Daimler Benz Document or the Article to Nelson, et al., or the Sekiguchi patent.

Claim 1 originally defined a signal processor having a first detector, second detector and signalling unit. Claim 1 has been amended so as to incorporate the subject matter of originally filed claim 3 into claim 1. For the reasons set forth below, the Applicants respectfully submit that claim 1 as amended is not anticipated by any of the references cited by the Examiner, taken either singularly or in combination. Specifically, with respect to the Daimler Benz Document, it is the Applicants' understanding that this Document generally describes the combination of a radar device and optical sensor. However, the disclosure of the Document

refers only to the situation where the information of the optical sensor is only used for classification and/or identification of the target that has "already" been detected by the radar device. In claim 1 as amended, the signal processor includes a first distance determinator configured to determine from the first signal a first distance between the first object and the optical sensor. Further, claim 1 also includes the limitation of a second distance determinator configured so as to determine from the second signal a second distance between the second object and the radar device. Still further, a signal producer is defined within claim 1, which is configured so as to produce a signal if the difference between the first and second distances satisfies a predetermined condition. None of these elements are taught or suggested by the Document.

Correspondingly, and for the same reasons as set forth above with respect to the Daimler Benz Document, claim 1 as amended is not anticipated and is patentable over the Nelson, et al. Article. Nelson, et al. discusses the use of sensor fusion with an advanced exterior sensor in the form of an intrusion detection in the assessment system designed for wide area coverage. Three sensor technologies are utilized, including visible, infrared and millimeter wave radar. A remote sensor rotates at a rate of one revolution per second to detect and track motion, and provide an assessment in a continuous field of regard of 360° . Sensor fusion techniques are used to correlate and integrate the track data from the three sensors, into a single track for operator observation. Additional inputs to the fusion process include environmental data, knowledge of sensor performance under certain weather conditions, sensor priority and operator feedback. A "confidence" value is then assigned to the track as a result of the fusion process. A primary purpose of this configuration is to reduce nuisance alarms and to increase operator confidence in the system, while reducing operator work load.

In summary, the Nelson, et al. Article does not teach or suggest any of the limitations of claim 1 as amended as previously discussed with respect to the Daimler Benz Document.

With respect to the Sekiguchi patent, the Applicants first note that the patent was first published in the United States on April 8, 2004, subsequent to the priority date of the present application. The Sekiguchi patent is directed to a vehicle which is capable of monitoring exterior circumstances, by utilizing information based on picture images and exterior information obtained from a radar. As an example, the vehicle can be provided with a CCD camera to detect a proceeding vehicle travelling ahead, as well as a millimeter wave radar for detecting the object.

A "reliability judging means" is provided for "judging a degree of reliability of the fusion solid objects based on a detection situation of the respective solid objects by the image solid object detecting means." Similarly, "second reliability judging means for judging a degree of reliability of the fusion solid objects based on a detecting situation of the respective fusion solid objects by the millimeter wave solid objects detecting means" are available. Accordingly, a proceeding vehicle is being selected "when it is judged that the fusion solid objects have a specified level of reliability, according to either of the first reliability judging means and the second reliability judging means."

The specific embodiment described in the drawings of the Sekiguchi patent is provided with a distance measuring section 16. A stereoscopic image processing section 15 is also made available, which obtains distance information over an entire image, as described in column 3 of the Sekiguchi patent. Based on the distance, the processing section 15 extracts lane markers and guard rails, as well as solid object like vehicles. In accordance with the disclosure in column 4 of the Sekiguchi patent, the distance measuring section 16 performs solidity recognition by processing, transmitting and receiving data input from the millimeter wave

transmitting and receiving section 4. As disclosed in column 5 of the Sekiguchi patent, the fusion solid objects are established in a section 17 by fusing the information obtained from the radar and the CCD sections. However, information of the millimeter wave solid object is introduced with top priority, in establishing the distance between the vehicle and the solid object.

In accordance with the foregoing, it is clear that the Sekiguchi patent does not teach or suggest the Applicants' invention as defined in claim 1 as amended. The distinctions between Sekiguchi and claim 1 as amended correspond to those distinctions previously discussed herein with respect to Daimler Benz Document and the Nelson, et al. Article. For these reasons, claim 1 as amended is not anticipated by any of the three referenced documents.

Claim 3 has been cancelled, as well as claim 16. Each of claims 2, 4 - 9 and 11 - 13 is directly or indirectly dependent from claim 1 as amended, and incorporates all limitations thereof. For the reasons previously set forth herein that claim 1 as amended is not anticipated by any of the referenced documents under §102, the Applicants respectfully submit that none of these dependent claims are anticipated by any of the three referenced documents, taken either singularly or in combination.

Further with respect to the Sekiguchi patent, the Applicants believe that the disclosure of the patent clearly "leads away" from the Applicants' invention as defined in claim 1 as amended. As made clear from FIG. 3 of the Sekiguchi patent, the system described therein allows handling of objects which have been detected by only one of the detector systems. This is a further reason why claim 1 as amended and the dependent claims at issue are neither taught nor suggested by the Sekiguchi patent.

Claim 14 is an independent method claim. Claim 14 has been amended so as to incorporate the method steps originally found in claim 16. Claim 16 was directly dependent

from claim 14, and has now been canceled. Accordingly, claim 14 now defines a method which includes determining, from the first signal, a distance between the first object and the optical sensor. In addition, the method includes determining from the second signal a distance between the second object and the radar device. Further, a detection signal is produced which comprises a distance signal if the difference between the two distances satisfy the predetermined condition. These method steps conform to functions identified as being performed by the structure defined in claim 1 as amended. Accordingly, for the reasons previously set forth herein that none of the three references cited by the Examiner are anticipated by claim 1 as amended, the Applicants respectfully submit that the Applicants' invention as defined by the method steps in claim 14 as amended is not anticipated by any of the references, taken either singularly or in combination.

As earlier stated, claim 16 has been cancelled. Each of claims 15, 17 – 22, 24 and 26 – 28 are directly or indirectly dependent from method claim 14, and incorporate all limitations thereof. For the reasons previously set forth herein that claim 14 as amended is not anticipated by any of the three references cited by the Examiner, the Applicants respectfully submit that none of these dependent claims are anticipated by any of the three references, taken either singularly or in combination.

The Applicants respectfully traverse the rejection of claims 10 and 25 under §103(a) as being unpatentable over the Daimler Benz Document, Nelson, et al. Article or the Sekiguchi patent.

With respect to the rejection, the Examiner states the belief that the invention is substantially disclosed by each one of the three references. However, the Examiner further states that none of these references show a dish antenna, as defined in claim 10.

Claim 10 is indirectly dependent from claim 1 as amended, and incorporates all limitations thereof. For the reasons previously set forth herein, the Applicants respectfully submit that claim 1 as amended is not anticipated by any of the three references. Further, for the same reasons as previously presented with respect to why claim 1 is not anticipated, the Applicants respectfully submit that claim 1 as amended is patentable over the three references, taken either singularly or in combination. That is, claim 1 conforms to all of the requirements of 35 USC §103(a). In view of claim 10 being indirectly dependent from claim 1, and incorporating all limitations thereof, the Applicants respectfully submit that Applicants' invention as defined in claim 10 is patentable over any of the three references, taken either singularly or in combination.

With respect to claim 25, Applicants are unsure as to the express rejection from the Examiner under §103(a). Claim 25 is directly dependent from claim 14, and defines the concept that between generating the sensor signal and detecting the first object, and generating the first radar signal and detecting the second object, the same period of time elapses. For the reasons previously set forth herein, claim 14 as amended is not anticipated by any of the three references. For these same reasons as previously set forth herein, the Applicants respectfully submit that claim 14 as amended is patentable over the three references, taken either singularly or in combination. In view of claim 25 being directly dependent from claim 14, the Applicants respectfully submit that claim 25 is also patentable over the three references.

Still further, and with respect to the patentability and nonobviousness of the Applicants' invention as defined in the claims as amended, it is respectfully submitted that the Applicants' invention has an object to provide a detection system which avoids false signalling of

objects, as much as reasonably possible. This problem is solved by the features of the independent claims 1 and 14.

In contrast, the Daimler Benz Document only provides for an alternative solution to the problem, and does not lead to the present invention. Instead, the Daimler Benz Document teaches to apply only a radar signal for determining a distance between a ground station and a target object. This is in contrast to Applicants' invention as defined in the claims. Further, a disadvantage of the system and method disclosed by the Daimler Benz Document is that use is required of databases or other means to provide geographic map material. Such material is used for processing sensor information of the optical sensor. In contrast, the present invention is based in part on the concept to apply distance measurements, and comparison of results of these measurements, as such, to detect an object. The substantial complexity of the concepts set forth in the Daimler Benz Document clearly lead away from Applicants' invention. The Applicants further submit that the disclosures of the other two references also lead away from the present invention.

In view of all of the foregoing, the Applicant respectfully submits that claims 1, 2, 4 – 15 and 17 – 28 are now in condition for allowance, and early notification of allowability is respectfully requested. Should any questions arise in connection with the foregoing, please contact Thomas L. Lockhart at the telephone number of 616/336-6000.

Respectfully submitted,

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